



Digital Health & Care
Innovation Centre

28/04/2026

Digital transformation of health and care

Decontamination & Sterilisation 2026

Birmingham

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Head of Research & Skills



Scotland's National Innovation Centre for Digital Health & Care

National resource, key enabler and catalyst for change, occupying a unique and visible position at the heart of the Scottish innovation ecosystem for digital health and social care.



University of
Strathclyde
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SCHOOL OF
INNOVATION
AND TECHNOLOGY
THE GLASGOW
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Scottish Funding Council
Comhairle Maoineachaidh na h-Alba



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What is digital health and care?

The field(s) of knowledge and practice associated with the development and use of digital technologies to improve both individual and population health and wellbeing, and to improve health and social care delivery.

digital and data infrastructures

wearable and mobile devices and monitors

digital health and care systems

telehealth and telecare solutions

telemedicine

personalised care

data analytics

cybersecurity

Artificial Intelligence and the Internet of Things (IoT)

DHI - Pioneering Digital Transformation in Health and Social Care

1

Support the **H&SC industry** to create digitally-enabled, person-centred solutions and reimagine new business models to take them to market.

2

Assist **H&SC services** to transform, and to develop new evidence-based service models enabling partners to get ready for adoption of digital solutions at scale.

3

Prepare **the current and future workforce and service users** to operate confidently in the digital environment.

4

Engage with **citizens** to ensure all partners can derive benefit from new and emergent technologies.

DHI's vision: Research and Innovation (R&I) in digital health and social care creates sustainable services and develops future skills, helping Scotland's people live longer and healthier lives, and enabling the economy to flourish to meet global needs.

We work in partnership, nationally and internationally

Canada:

- Vancouver

USA :

- Kaiser Permanente
- Gates Foundation
- University links –
 - Boston
 - California
 - Ohio

Africa:

- Rwanda

Middle East:

- Dubai
- Saudi Arabia
- Abu Dhabi
- Israel
- Jordan

Asia:

- India
- Sri Lanka
- Singapore

Oceania:

- Australia

Europe:

- Scandinavia – Denmark, Finland, Norway and Sweden
- Ireland
- Spain
- Netherlands
- Belgium
- Switzerland
- Slovenia
- France
- Germany
- Poland
- Italy
- Greece





Our portfolio

Brain health

Chronic
disease

Digital mental
health

Drug-related
harms

Healthy ageing

Hospital at
home

Integrated
care

Resource use
and
optimisation

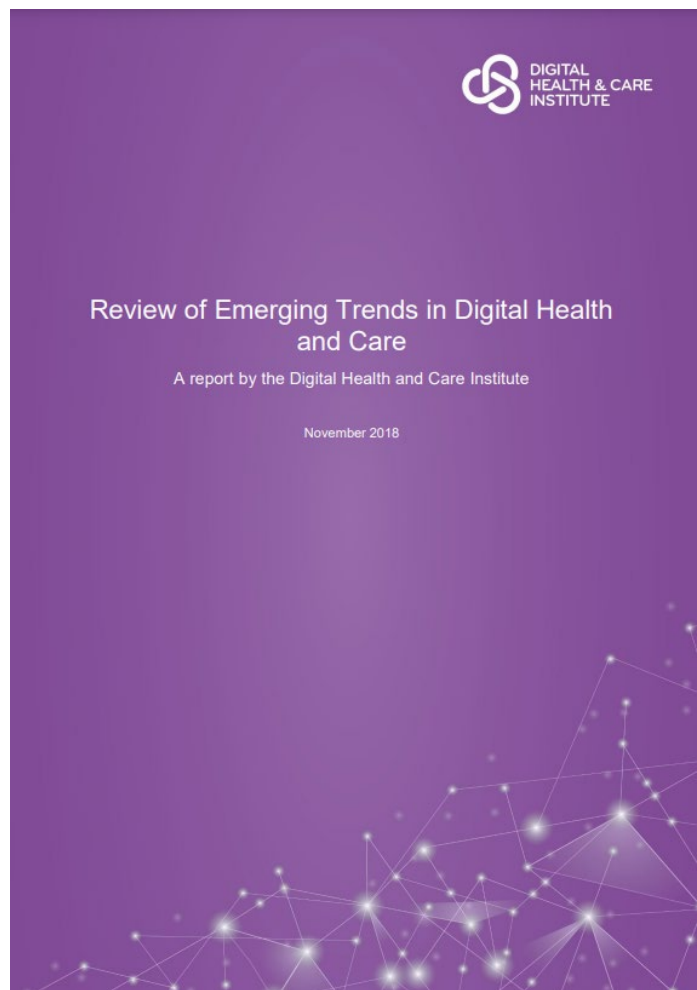
Rural
communities

Social care

Future skills

Workforce
development

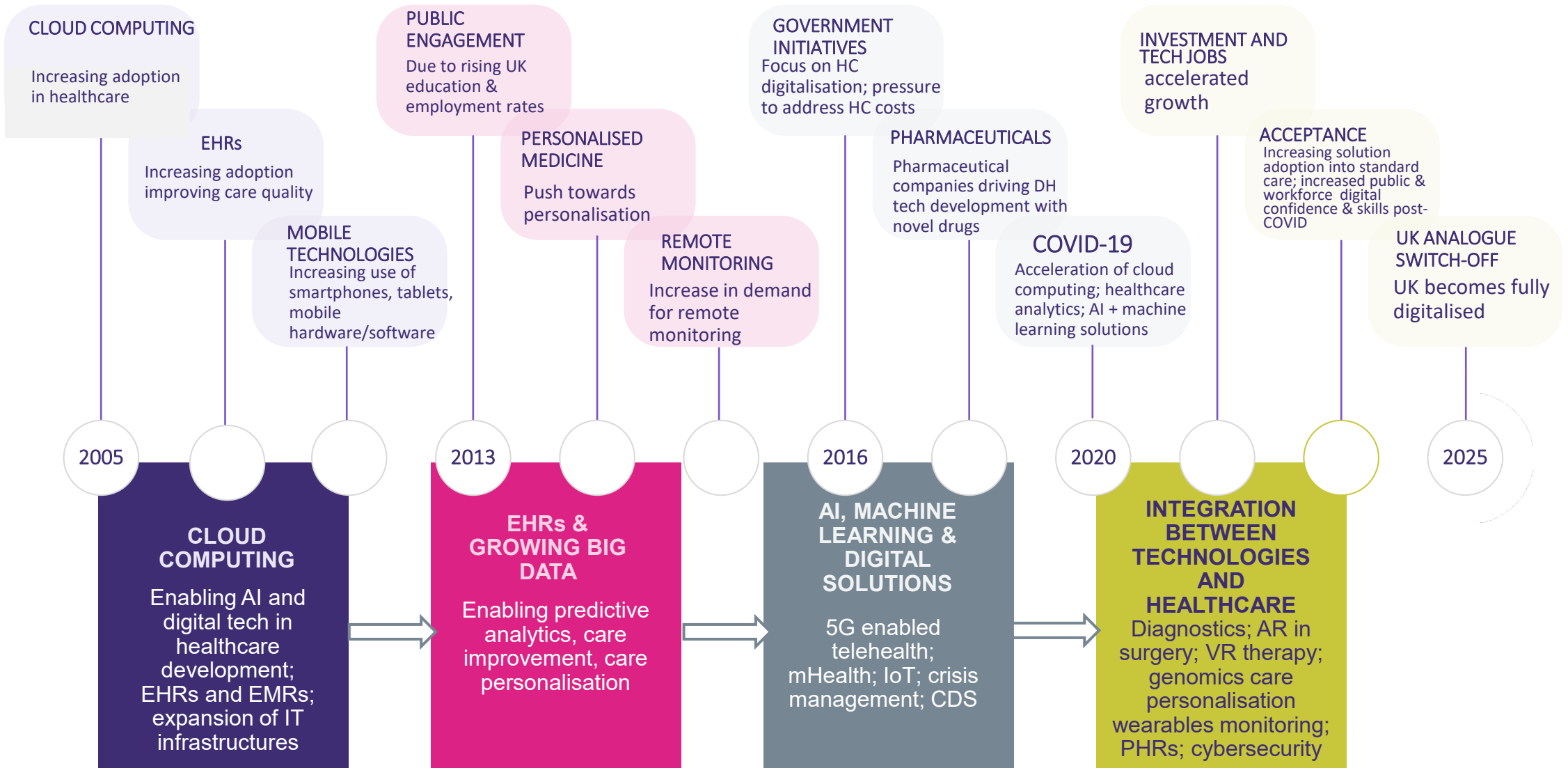
Emerging Trends in Digital Health and Care 2019 + refresh 2022



HEALTH AND CARE
DIGITALISATION
JOURNEY

HEALTHCARE PROFESSIONALS + PUBLIC + KEY INVESTORS + GOVERNMENT = ACCELERATION OF TECH DEVELOPMENT AND EMBEDDING

↑ DRIVERS
↓ ENABLERS



Covid-19 has fundamentally transformed health & social care delivery

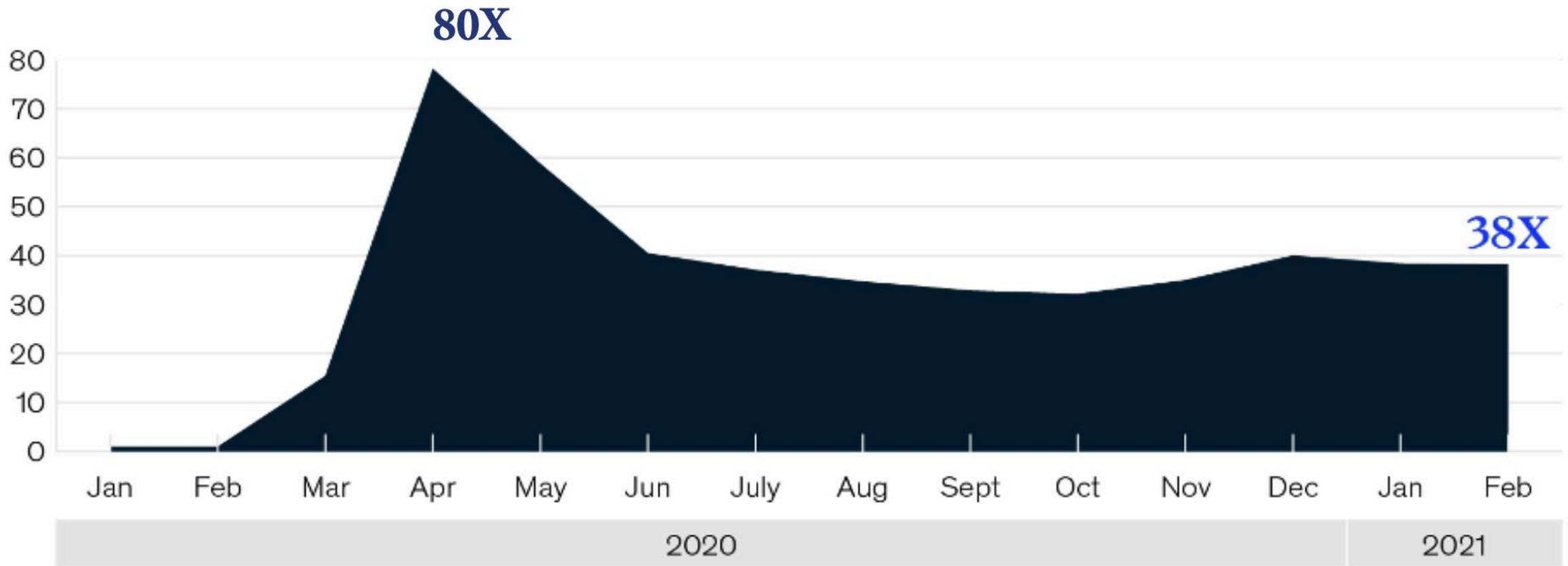
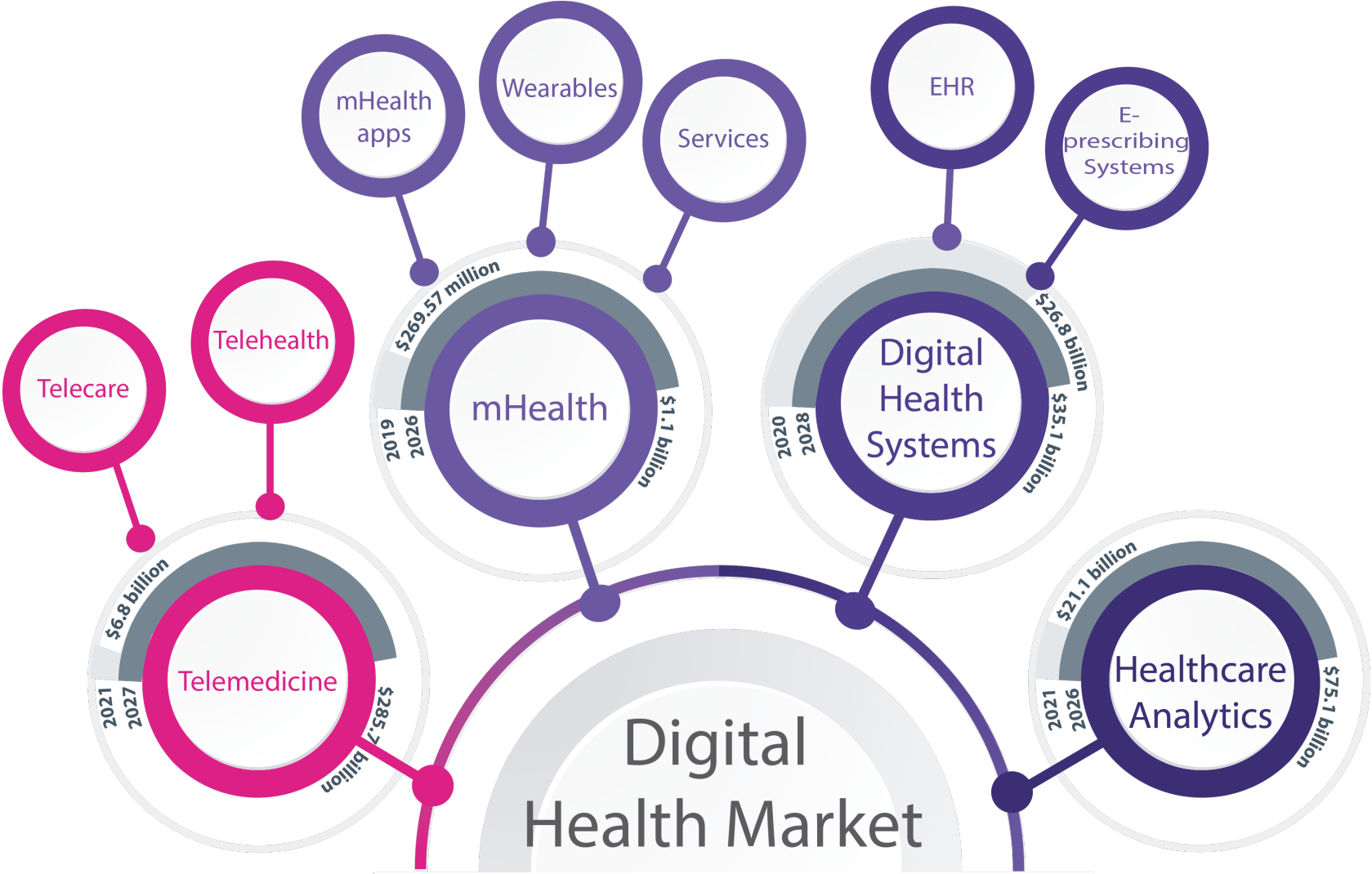
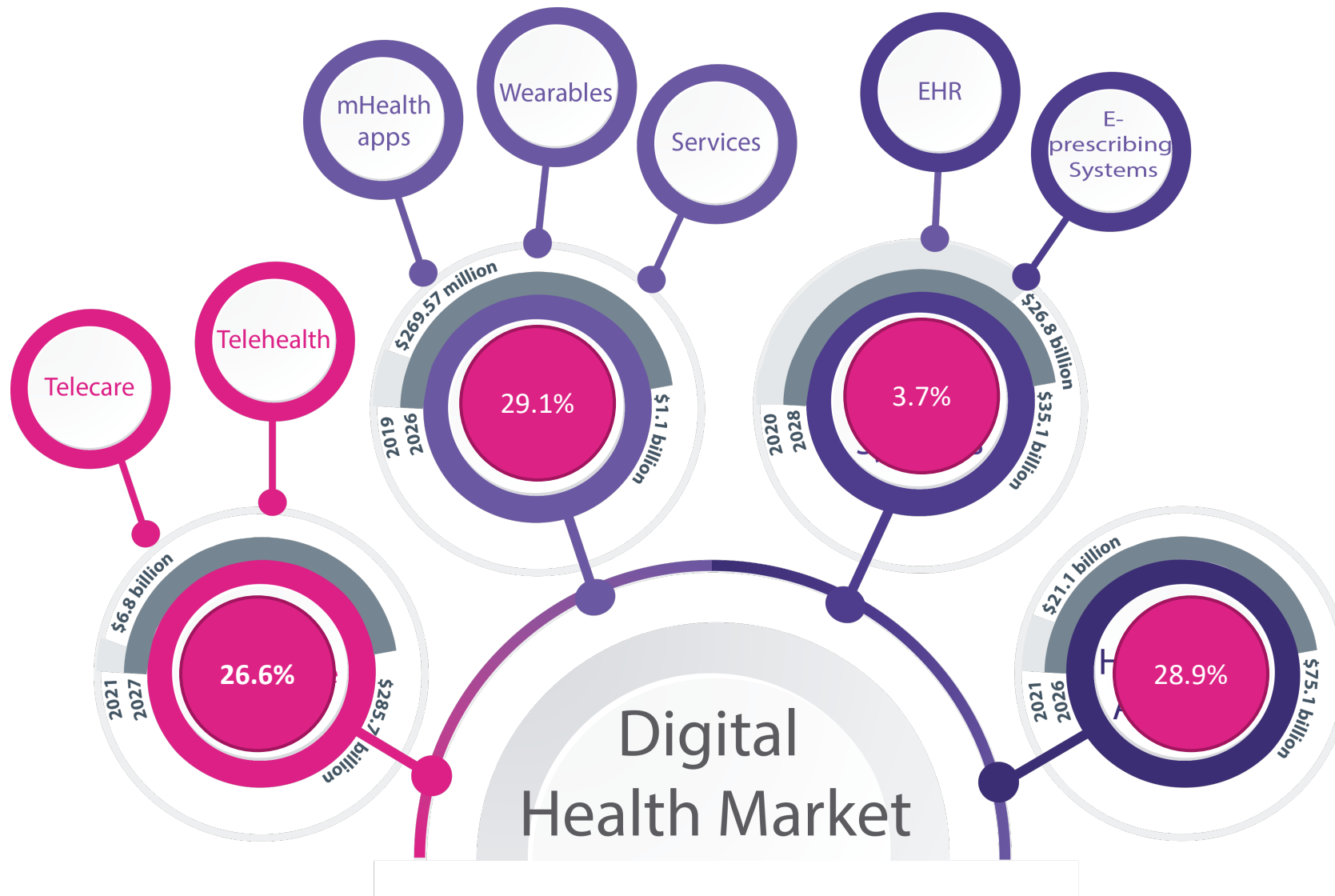


Figure 5. Depiction of the rapid growth of telehealth use during the COVID-19 period before stabilisation to present-day levels (McKinsey and Company, 2021).

Digital Health and Care Market - \$700bn growth opportunity



Digital Health and Care Market



Technical and softer developments in DH&C



Transformation of Health and Care Services

- Cloud Computing
- Big Data
- Artificial Intelligence
- Virtual and Augmented Reality
- Digital Pharmaceuticals
- Digital Pharmacy
- Digital Mental Health
- Genomics

Refers to subsectors of DH&C that will fundamentally change how H&C services are delivered both from the perspectives of the patient and the providers through introducing novel solutions that transform current practices into something new. The sections focusing on Cloud Computing, Big Data, and Artificial Intelligence are seen as enablers that lay down the foundations for the emerging innovative developments to take place.



Migration from Analogue and Legacy Systems to Modern Digital Approaches

- Telehealth and Telecare
- Electronic Health Records (EHR) and Electronic Medical Records (EMR)
- Personal Health Records (PHR)

Explores the shift taking place in the delivery of H&C from traditional, face-to-face models, and from tech that rely on physical telephone lines, to digitally supported methods; on care delivery moving away from hospitals into communities and homely settings; and the shift from health service-owned to person-owned health and care data.



The Acceleration of Digital Innovation in Health and Care

- mHealth
- Remote Patient Monitoring & Care
- Wearable Technology

Brings up subsectors of DH&C that are estimated to grow because of COVID at a faster rate than previously predicted in terms of availability, implementation, and uptake. These include greater use of patient data obtained through remote monitoring technologies and an increase in the use of patient generated data from third party wearable and mobile technologies.



Softer Developments (Acceptance)

- Building trust in digital health
- Acceptance of digital health
- Equity in digital health
- Impact workforce development

Discusses the softer developments in DH&C following COVID, many of which have arisen due to the rapid technical developments discussed in the other three sections. The theme of acceptance of DH&C does not simply refer to the increased acceptance of digital tech; it also refers to the greater sector-wide efforts by various stakeholders and leaders to establish a cultural shift that can advance the digital transformation of the sectors.

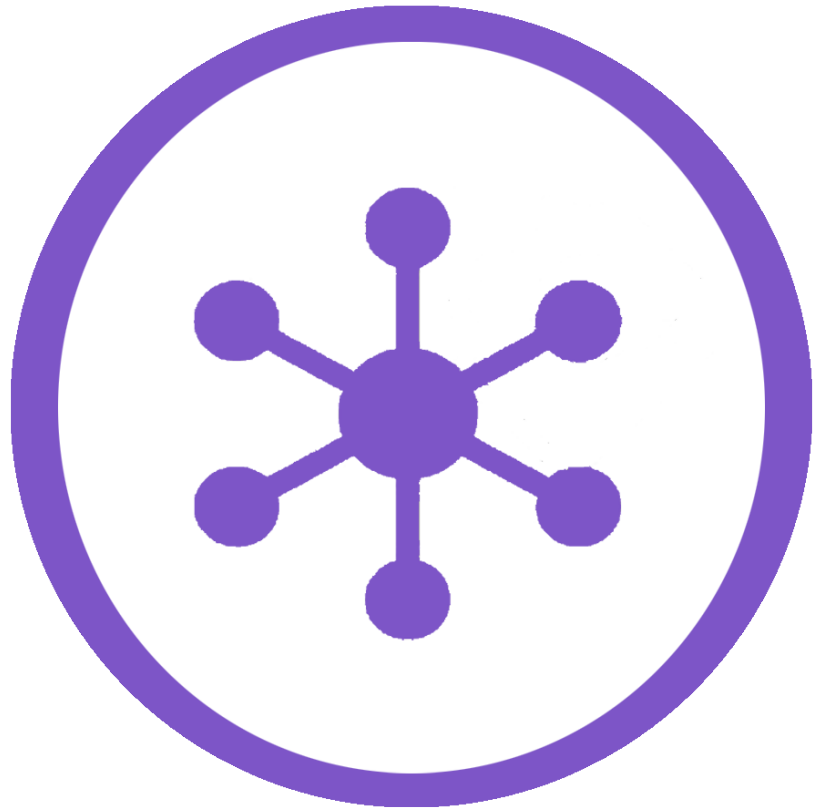
Transformation of health and care services



- Cloud Computing
- Big Data
- Predictive Analytics
- Artificial Intelligence

- Virtual and Augmented Reality
- Digital Pharmaceuticals
- Digital Pharmacy
- Digital Mental Health
- Genomics

Migration from Analogue and Legacy Systems to Modern Digital Approaches



- Shift in traditional methods of delivery of health and care
 - Digital / remote delivery
 - Care in community settings
- Telehealth and Telecare
- Electronic Health Records (EHR)
- Electronic Medical Records (EMR)
- Personal Health Records (PHR)

The Acceleration of Digital Innovation in Health & Care



- Remote Patient Monitoring and Care
 - mHealth
 - Wearable Technologies
 - Io(M)T
- The Wearable Tech market (at \$16.6bn in 2020) expected to grow by 574% (to \$111.9bn) in value by 2028!

Acceptance of Digital in Health and Care



- Building trust in digital health & care
 - **Cyber security**
- Acceptance of DH&C
- Equity in DH&C
- Impact on workforce development and skills

The emerging trends: impact of accelerated digital transformation of health and care

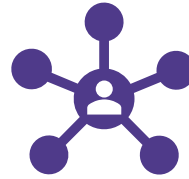


Digital transformation of health and care



Frontline health & social care staff

Digital skills



Specialist digital, knowledge, information and data roles in H&SC

Specialist digital, data, analytics and informatics skills

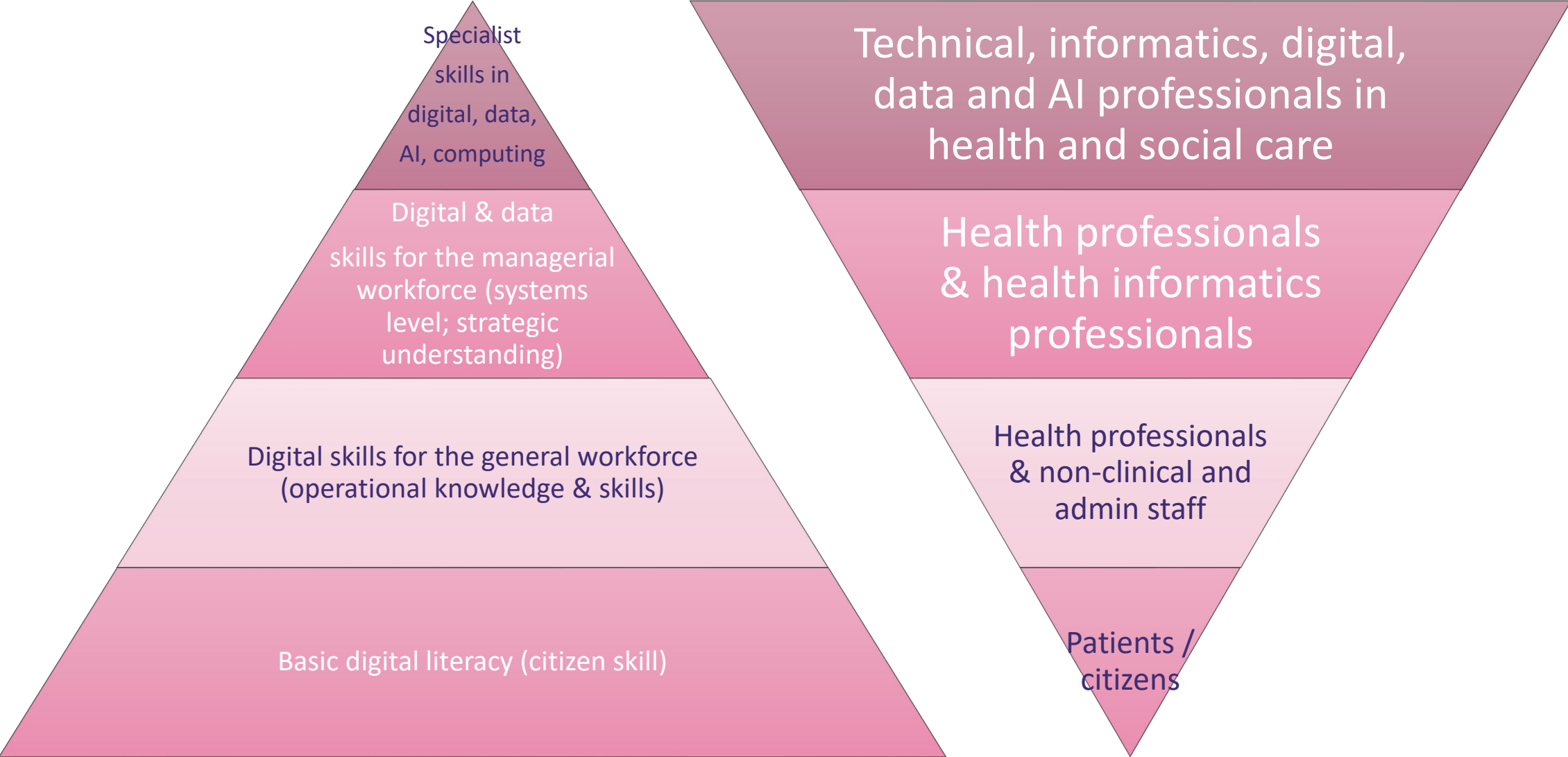


Technical professionals

Tech skills; software development, computing, cyber security, user engagement, project management, change management, implementation facilitation, etc., etc.



Digital and data proficiency required by different professional categories





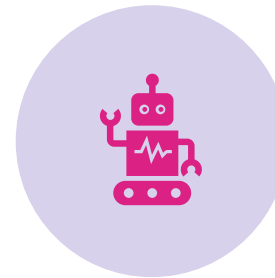
Digital literacy is a foundational ability prerequisite to developing digital skills, OR it can be used as an umbrella term to denote the wider ability to do one's work in a digital context.



Digital skill is the ability to perform a digital task.



Digital competency is the ability to perform a given digital task to an agreed job specific standard.



Digital capability is the ability to use transferable skills to learn to perform a future, yet to be defined digital task.

What would digital transformation mean for you?

- Digital traceability systems (T-DOC, Health Edge)
- Machine-generated data from washers/sterilisers
- Automation and robotics in loading/unloading
- Predictive maintenance using cycle data
- Digital documentation replacing paper pathways
- Emerging roles in data handling, QA, and system oversight

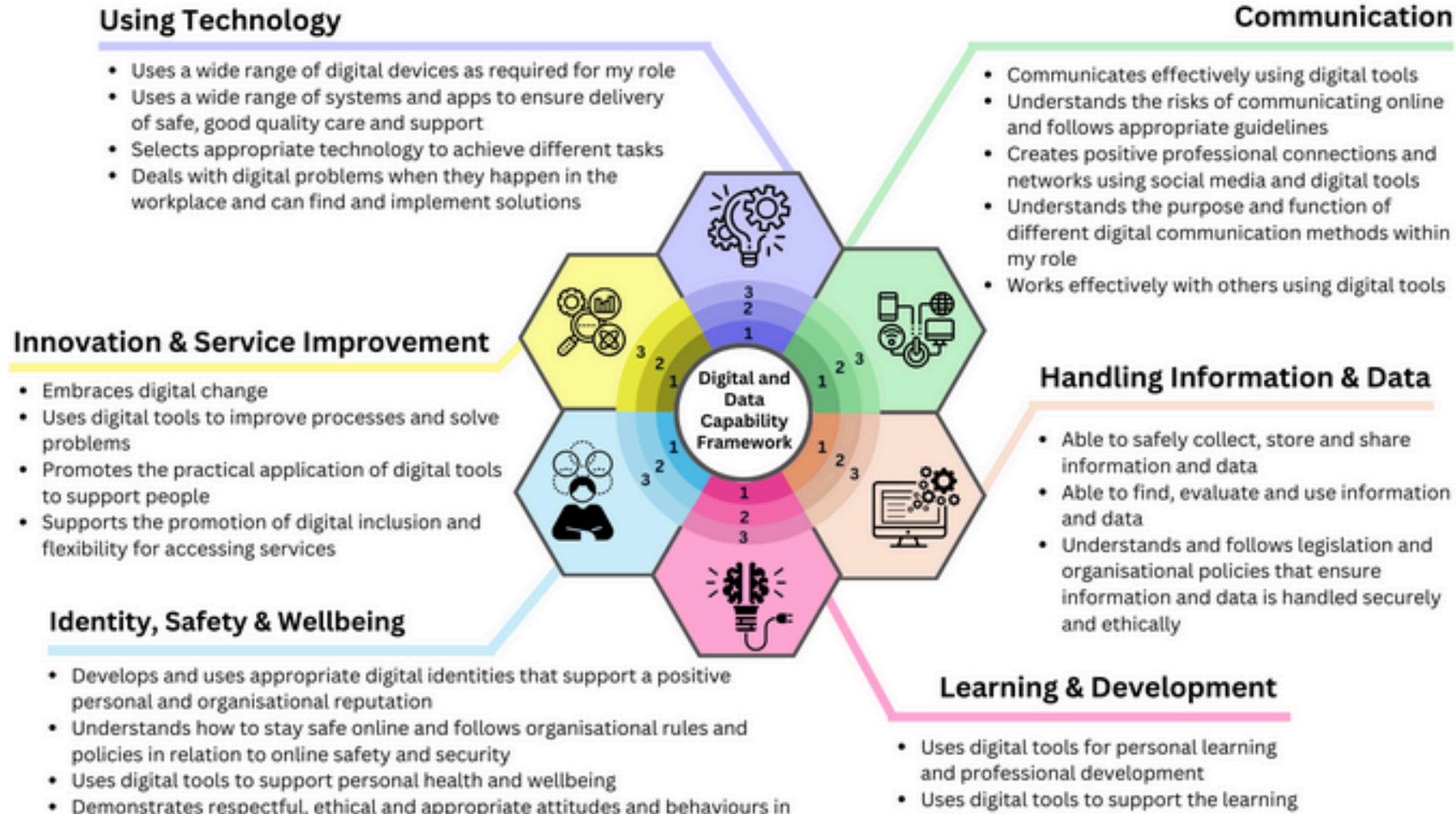


Digital and Data skills for Decontamination Staff?

- Understanding tracking systems
- Interpreting machine cycle data
- Spotting anomalies in digital dashboards
- Using mobile devices for workflow prompts
- Documenting compliance digitally
- Cyber awareness (important for traceability/IoT systems)

Specialist roles Emerging?

- “Digital decontamination technician”
- Data/QA specialist for sterile services
- Automation/robotics technician
- Systems super-user roles



Digital and Data Capability Framework Self Assessment Tool

The **Digital and Data Capability Framework Self-Assessment Tool** has been developed to guide you through the **Digital and Data Capability Framework**. Please familiarise yourself with the Framework before completing the tool: <https://learn.nes.nhs.scot/76134>

Self-Assessment Instructions

The tool is made up of **22 questions**.

It will take approximately **20-30 minutes** to complete.

Make sure you have enough time available before you start as it isn't possible to save as you go.

On each page of this form you will see a table which lists the Framework capability statements. **Read the 3 level descriptions** and **pick the option that is closest to your current skills, knowledge and behaviours**. At the end please provide your name and email address, your results will be emailed to you along with links to learning resources.

How we use your data

Your name and email address will be used to personalise and send your results email, and not for any other purpose. Once the email is sent your name and email address will be deleted. No data is retained linking your results with your name.

Anonymous data will be retained by NHS Education for Scotland and used to identify where there is a demand for additional learning resources, and measure digital and data capabilities trends over time. For more information about the NES data policy, see www.nes.scot.nhs.uk/privacy-and-data-protection.aspx

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How to navigate the digital shift in healthcare?

An international review and analysis of frameworks
used to support digital working by frontline healthcare staff

Authors: Rimpiläinen, Sanna; Bosnic, Iris; and Savage, Jamie 2024

Main report



Summary report



Thank you!

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